



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY  
GOVERNOR

LYNDO TIPPETT  
SECRETARY

**North Carolina Board of Transportation  
Environmental Planning and Policy Committee  
Meeting Minutes for April 30, 2008**

A meeting of the Environmental Planning and Policy Committee (EPPC) was held April 30, 2008 at 8:30 AM in the Board Room (Room 150) of the Transportation Building. Board Member Nina Szlosberg chaired the meeting. Other Board of Transportation members that attended were:

Conrad Burrell	Nancy Dunn	Alan Thornburg
Bob Collier	Doug Galyon	Gus Tulloss
Marion Cowell	Arnold Lackey	
Tony Dennis	Andy Perkins	

Other attendees included:

Bill Rosser	Don Lee	Wally Bowman
Joel Setzer	Bob Andrews	Donna Dancausse
Jay Swain	Debbie Barbour	Donnie Brew
Mike Pettyjohn	Cheryl Teeters	Tad Boggs
Daniel Keel	Jerry Jennings	Jennifer Garifo
Lori Kroll	William Schroeer	Beth Smyre
John Sullivan	Brock Nicholson	Marshall Dobson
Mike Mills	Ricky Greene	Jennifer Hams
Tim Johnson	Phil Harris	Tracy Roberts
Pat Simmons	Beth McKay	Dan Thomas
Amy Simes	Lisa Glover	Julie Hunkins

Ms. Szlosberg called the meeting to order at 8:30 a.m. Ms. Szlosberg opened by accepting a motion to approve the meeting minutes from the April 2, 2008 committee meeting. The minutes were approved as presented.

Ms. Szlosberg began by recalling that almost two years ago the Legislature started looking at climate change, the potential implications for North Carolina, and what the State can do to prepare for it. She noted that their efforts are part of a national trend, even though local officials throughout the states (governors, local county commissioners, and people who deal with different state agencies) have concerns that the federal government does not seem to be doing much to assist with the climate change efforts, and yet, climate change is occurring. She stated that we have to do something to slow climate change down; we have to get ahead of the curve and make changes in policies to adapt to it.

**MAILING ADDRESS:**  
NC DEPARTMENT OF TRANSPORTATION  
OFFICE OF ENVIRONMENTAL QUALITY  
1502 MAIL SERVICE CENTER  
RALEIGH NC 27699-1502

TELEPHONE: 919-733-1200  
FAX: 919-733-1194

**LOCATION:**  
TRANSPORTATION BUILDING  
1 SOUTH WILMINGTON STREET  
RALEIGH NC

States have started to take control over this, and, state by state, have started to put together climate change legislation. North Carolina enacted legislation to establish a Study Commission to look at recommendations for the state. Part of that Study Commission was the Climate Action Plan Advisory Group, known as CAPAG. The group consists of forty-five people, including technical experts. There are a number of areas represented, including forestry, utilities, environment, transportation, as well as others, which make up a very diverse group. These representatives then broke out into working groups, one of which was the Transportation Working Group (TWG). The TWG has developed recommendations that were given to the Legislation Study Commission and will be given to the Legislature when they next convene. At that time there will be moves to implement these recommendations. The North Carolina Department of Transportation needs to know what those recommendations are so that we can look at what we can do as an organization to support, to give input, and to be a part of that process.

Ms. Szlosberg introduced Mr. Brock Nicholson, Deputy Director – Division of Air Quality at the North Carolina Department of Environment and Natural Resources. Mr. Nicholson began his presentation by talking about the growth we are facing in North Carolina. It helps to understand how that growth will affect the increase in greenhouse gases. We are over 9 million in population now and expect to be over 13 million by 2030. Homes, commercial, industrial, and institutional areas increase daily, which increases the amount of spaces that need heating and cooling. Currently there are 14 coal-fired power plants and 40 combustion turbines; still we have issued a permit to Duke Power requesting a new base load 800 mega watt plants, which we think is very necessary to deal with the growth.

Greenhouse gases (GHG's) are any one of six basic gases that are commonly referred to as CO<sub>2</sub> equivalent. These gases have different potency factors in terms of the GHG effect, but CO<sub>2</sub> is most prevalent. We think of these gases in terms of million metric tons. In 2000 we were just less than 200 million metric tons. By 2020 we expect to be nearly 270 million metric tons. CO<sub>2</sub> is a byproduct of combustion, so transportation with engines that burn fuel, and stationary sources, are a major contributor to this in terms of electricity combustion.

CAPAG was initiated by the NC Department of Environment and Natural Resources and derived by the Clean Smoke Stacks Act. A requirement in that Act enabled the placement of controls on the 14 coal fire power plants in North Carolina. The original proposal that was primarily floated from the environmental community in 2000 and early 2001 contained a cap on mercury emissions and a goal for CO<sub>2</sub>. As part of the initial negotiations on getting commitments from the utilities for controls on sulfur dioxide and NO<sub>x</sub>, which are very major health based pollutants, we made an agreement that we would lock in on the limits on sulfur dioxide and NO<sub>x</sub>, which did, in fact, result in a final Bill that was passed in 2002; those limits were locked in. In exchange for that (for not setting a goal on CO<sub>2</sub> or Mercury because of some of the unknown nature of what that meant), we got a commitment that we would go to the Legislature three years hence and make recommendations and provide an annual report to the Legislature for each of those three years. In September 2005, we made recommendations to the Legislature, look at options for controlling CO<sub>2</sub> from power plants and other major stationary sources. The thought was that this is not the only source for GHG admissions so we decided to look at all the sectors, and those are reflected in the CAPAG's recommendations.

Another recommendation made in September 2005 was to involve and outside stakeholder groups -- for public representation and to get a better sense of what that group would recommend. Parallel to

that time frame, but on an independent path, the Legislature created the Legislative Commission of Global Climate Change (LCGCC). Its charge was to look at the impacts on global climate change in North Carolina and determine if the Legislature should set a goal for North Carolina on reducing GHG's, and, if so, what should that goal be. The Legislature will also look at mitigation options. In the Climate Registry there are sector-by-sector considerations, and then there are cross cutting considerations for the issues that are not sector specific. One of the recommendations is that the State keep track of emissions inventory for GHG's and understand how that changes over time. The Center for Climate Strategies is a contract consultant that was hired to help facilitate the CAPAG process; and they helped with the inventory initially submitted to the Legislature in September 2005. CAPAG joined the Climate Registry, whose membership now includes 39 states, the District of Columbia, 7 Canadian Provinces, three Indian Tribes and five Mexican states. The Climate Registry is voluntary, where State Agencies can record their carbon footprint and note how it changes over time. The North Carolina Department of Environment and Natural Resources is a founding reporter to the Climate Registry, and other North Carolina State Agencies are encouraged to also volunteer to be members.

Question – Who are the external members?

Answer – Out of 30, the environmental community, businesses, utilities, and academia are some of the larger categories.

The purpose and goals of CAPAG are to look at a range of individual mitigation options. They started with about 307 options, including the original set that was recommended to the Legislature, plus some that the Center for Climate Strategies, who worked with other States on a similar process, developed through these dialogues. That larger list was reduced to 56 major options that were to be looked at in much more detail and research done on them. A cost-benefit analysis, which included an economic analysis, was performed. Appalachian State University (ASU) looked at the secondary impacts (beneficial and negative) to understand what job loss there might be if some of these measures would be implemented or what job gains there would be if these measures were implemented. Mr. Nicholson reported that even though ASU's report is still in final production and will go through a peer review process before it is actually finalized, the preliminary results were reported to the Legislature Commission showed that a net job increase for the state of more than 32,000 jobs and a net increase of \$1 billion between now and the year 2020, assuming that all of these measures were implemented. The CAPAG process was to get consensus of all the stakeholders; for the most part, we had a majority consensus.

Other tasks included supporting the Commission on Global Climate Change. This Commission compliments and supports the Legislative Commission. Mr. Nicholson stated that the CAPAG met with members of the Senate and House to try to understand the relationship between their outside stakeholder process and the Legislative Commission. They felt it was important to interact and have a standing agenda item for their Commission meetings to report on progress towards identifying mitigation measures. The Legislative Commission was looking to the CAPAG for technical support. The CAPAG didn't really look at the science and whether global warming is occurring or not; they took the Legislatures charge to look at option for reducing CO<sub>2</sub>.

The Legislative Commission on Global Climate Change membership consist of 34 members, of which 18 are Legislators; others are a cross-section from other stakeholders groups. These were

prescribed by Legislation establishing the Commission. There is going to be Legislation introduced to extend the Commission by at least one year, and there was possible consideration that it would be made a permanent commission to look at mitigation options as well as adaptation options.

Mr. Nicholson stated that when a person would mention “adaptation” in years past, the environmental community would really get very upset because they thought you were saying, “let’s just adapt to this change and let’s not stop the change or alter the change.” The realization is, if the science is really true, we are going to see some impacts of climate change. There are some things that can be done to slow or somewhat, if not totally, mitigate that change, depending on what type of reduction you want to see. As they say, there is a lot of inertia in the system and what we do today, even if drastic, won’t really change the fact that we are going to see some temperature rise, sea level rise, and so forth. It is going to happen. Wisdom would suggest that we need to look at mitigation options to try to influence the ultimate result of climate change; we also need to look at what we need to adapt to it.

Here’s an examples here in North Carolina -- one that might touch the transportation community. I have been told that when a hurricane cuts an inlet through the Outer Banks and cuts NC 12, science suggests that there ought to be a time consideration before that inlet is filled. I know there will be pressure to fill the inlet because of the need for the road, and people want the road, but the way the sand is carried to the backside of that inlet over some time may be sufficient sand to close that inlet without doing permanent harm to the process of sand movement along the coast. So that is a consideration, and perhaps that should be part of an adaptation plan to have people understand the science of repair of damage due to storms. Another example is the issue of fresh water supply in the east and the salt water intrusion. Even if we don’t have sea level rise, but we have more intense storms, upland intrusion of saltwater can affect the fresh water supply. Maybe we need to look at things like those canals that were created starting in the 1790s to form a great funnel for intrusion of salt water during storms. These are the type of issues that people don’t really realize when you first think about adaptation. Other options include research for agriculture and forestry. Even in the mountains, we need to start looking as a longer term measure -- we need to look at research into what we can do to preserve our rather valuable economic asset of the Christmas tree industry. If we do have increased temperatures or droughts, maybe there is some genetic research that can help there to keep that industry alive and prosperous.

Adaptation can take a very broad consideration -- public health, emergency management, transportation, and communication. These are all includes in the 56 recommendations that the CAPAG has submitted for consideration as North Carolina start processing its response to climate change.

Mr. Nicholson discussed the CAPAG recommendations for residential, commercial, industrial sectors, which included:

- Demand Side Management Programs (Energy Efficiency Investments)
- Expand Energy Efficiency Funds
- Energy Efficiency Requirements for Government Buildings
- Market Transformation and Technology Development
- Improved Appliance and Equipment Efficiency Standards
- Building Energy Codes
- “Beyond Code” Building Design Incentives and Targets

- Education (Consumer, Primary/Secondary, Post-Secondary/Specialist, College, and University Programs)
- Green Power and Bulk Power Purchasing
- Distributed Renewable and Clean Fossil Fuel Power Generation
- Residential, Commercial, Industrial Energy and Emissions Technical Assistance
- Technical Assistance and Recommended Measures Implementation

Energy Supply recommendations included:

- Renewable Energy Incentives
- Renewable Energy Portfolio Standard (REPS) (in Principle)
- Removing Barriers to Combined Heat and Power (CHP) and Distributed Generation (DG)
- CO<sub>2</sub> Tax and/or Cap and Trade (was recommended in concept with no specifics)
- Legislative Changes to Address Environmental and Other Factors
- Incentives for Advanced Coal
- Public Benefits Charge
- Waste to Energy
- Incentives for CHP and Clean DG
- NC Green Power Renewable Resources Program

Agriculture and Forestry has to do with Bio-diesel production and sequestration of carbon through Agriculture and Forestry practices. Urban Forestry measures are one of the biggest benefit measures; that is a provision for more shade trees in residential areas to improve on energy consumption.

Mr. Nicholson stated that the CAPAG also developed recommendations having to do with transportation and land use, which Mr. Will Schroer would present later during the committee meeting.

Cross-Cutting CAPAG recommendations includes creating GHG inventories and forecasts, GHG reporting, creation of a GHG Registry, conducting public education and outreach, and developing adaptation strategies.

So what does all this add up to? In the end, if all 56 measures were implemented completely, and implemented well, the CAPAG's calculations are that we should be around the same level that we were in 2000, out in 2020. In other words, we mitigated the growth in the emissions. Some of the Legislation includes Senate Bill 3 – the Renewable Energy Portfolio Standard (REPS) and the Energy Conservation in State Buildings. These are two that the CAPAG believes are very significant. In terms of the latter, Mr. Nicholson stated that they think the state ought to be leading by example. He added that the Renewable Resources in Senate Bill 3 include solar, wind, hydropower, geothermal, ocean current or wave energy Resources, and biomass.

Mr. Nicholson welcomed Mr. William Schroer of ICF International to talk about the CAPAG's Transportation and Land Use Recommendations.

Mr. Schroer began by thanking Mr. Nicholson for the comprehensive introduction. He referred the Board Members to look at the two handouts. The Transportation and Land Use portion of the CAPAG process produced a final report with recommendations that can be downloaded from the web. The 2-page handout provides the individual Transportation and Land Use sector

recommendations. As a bridge from Mr. Nicholson's presentation, Mr. Schroer pointed out the far right column where it says "Level of Support". As Mr. Nicholson mentioned, the goal of the broader CAPAG process was to seek consensus, if possible. Mr. Schroer stated most of the recommendations that came out of the Transportation and Land Use sector were Unanimous Consensus (UC) or Super Majority (SMJ). The stakeholders were able to come together around a set of recommendations that they thought fill the mandate given to the CAPAG by the Legislative Commission and were consistent with the economic and the social constraints that stakeholders understood to be imposed on the realities of North Carolina by 2020. The recommendations from the Transportation and Land Use Working Group are divided into three groups: improving transportation technology, reducing the GHG content of fuel, and managing vehicle miles traveled (VMTs). Transportation emissions are a function of the technology used to consume the energy that moves us around, examples of which are the fuel efficiency of the automobile, or the emissions of the air conditioning system in the automobile. Technologies, not just fuel economy, include any number of the technological aspects of the transportation system that either produce or leak greenhouse gases.

So, the transportation emissions are a combination of (1) the efficiency of the automobile you purchase (low to high efficiency automobile that you put fuel in), (2) the carbon content (gasoline, ethanol, electricity/plug-in hybrid) of the automobile fuel, and (3) how much you drive. After a lot of work, the Transportation and Land Use Working Group grouped its recommendations into measures that would affect each one of these influences on North Carolina transportation emissions. In order to gain this trend anywhere down to a stabilized level, let alone actual net reductions, we will have to see if we are going to slow climate change; we have to work in each one of those areas.

Mr. Schroer continued by saying that at the risk of exaggerating, there was a period that the Transportation and Land Use Working Group thought, if we could just work on the technologies, then we wouldn't have to work on fuels or activities to reduce GHG's. If we could just come up with more fuel efficient set of vehicles we wouldn't have to worry about changing away from gasoline, or worry about driving, shipping, flying, etc. That dream is over. Everybody now realizes that if we are going to reverse this trend, we have to work in all three of those areas. The first recommendation is that "North Carolina can and should cost-effectively improve technology to reduce GHG emissions per mile – particularly by adopting the California Clean Car standard". Specifically, North Carolina should adopt California's Clean Car emissions standards.

Second, "North Carolina can and should lower the GHG content of its fuel" used in the transportation system. That means moving away from a predominantly gasoline and diesel fuel fleet and introducing a broader set of mixes into the fuel consumption portfolio. That can mean moving from a corn-based to a cellulosic ethanol, using plug-hybrids that draw on the electricity grid, and lowering the carbon content of fuels.

The final recommendation is to get a handle on VMT. VMT's have been growing much faster in North Carolina and in the rest of the country than population. So, what can NCDOT do to help us to work on reducing VMT's.

There are five individual options for reducing VMT's, but the emphasis is on two for NCDOT. The first is to support integrated transportation and land use planning. The growth in vehicle miles traveled is the result of our activities growing ever further apart. The distance between our individual homes, businesses, and recreational activities are (1) growing further apart and (2) the

options for getting between them, no matter what the distance, are increasingly unfriendly to any mode of transportation that we are driving. Even if the school remained close to the home, kids are less likely to walk because it is less safe as the amount of traffic increases.

The Transportation and Land Use Working Group looked at trying to get a handle on transportation and land use as a unit, as a means to reduce the growth of VMT. Options included giving kids an opportunity to walk to school and giving people the opportunity to get to their jobs and to shopping in a way other than by driving a single occupant vehicle. It was a unanimous conclusion of the group that transportation and land use need to be dealt with as a unit.

The last option is to support and promote multi-modal transportation. This does not mean just transit. It means making sure there are choices available, where it makes economical and physical sense in the transportation system to do so. This means providing options for transit or making sure biking, walking, carpooling, etc. are real economic and convenient options for most of the population of North Carolina. The recommendation that the group came out with was simply to endorse the existing recommendation that already exists in the North Carolina State Transportation Plan (i.e. 13% of the state transportation funding is to be spent on multi-modal transportation investment and promotion).

The charge to the group was to bring the recommendations forward, regardless of whether the recommendations were new ones or duplicative of recommendations that already exist. If there were existing recommendations out there that the Transportation and Land Use Working Group thought made sense and that needed to be pursued aggressively, they were encouraged to endorse those as well. The group did some analysis as to what you could get from that money and the savings from investing in multi-modal transportation. As gasoline prices continue to increase, providing people with options saves money for the individual and the state.

Mr. Schroeer concluded that the bottom line is that you can save money for each ton of CO<sub>2</sub> that is reduced.

Ms Szlosberg asked if there were any questions. The meeting adjourned at 9:30 a.m.

The next meeting for the Environmental Planning and Policy Committee is scheduled for Wednesday, June 4, 2008 at 8:30 a.m. in the Board of Transportation Room (Room 150) of the Transportation Building.